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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER	
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ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

PTO-90C (Rev. 2/95)
*U.S. GPO: 1996-404-496/40510

1- File Copy

Office Action Summary

Application No. 09/592,461	Applicant(s) Michael J. Novosel, Jr., et al.
Examiner Talivaldis Ivars Smits	Art Unit 2641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *October 16, 2000 and March 12, 2001*

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-50* is/are pending in the applica

4a) Of the above, claim(s) ______ is/are withdrawn from considera

5) ☐ Claim(s) ______ is/are allowed.

6) ☒ Claim(s) *1-50* is/are rejected.

7) ☐ Claim(s) ______ is/are objected to.

8) ☐ Claims ______ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on ______ is/are objected to by the Examiner.

11) ☒ The proposed drawing correction filed on *Jun 9, 2000* is: a) ☒ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ______ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *4 and 8*

18) ☐ Interview Summary (PTO-413) Paper No(s). ______

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

DETAILED ACTION

Withdrawal of Previous Office Action

1. Examiner's previous Office Action, mailed December 7, 2000 in response to applicants' having filed for a reissue of U.S. Patent 5,855,104, published on December 29, 1998, with a Preliminary Amendment, correcting typographical errors in the original Specification, Drawings, and claims, and addung new claims, **crossed in the mail** applicants' Information Disclosure Statement, received October 16, 2000, which, due to a clerical error, was not matched to the application prior to the Office Action. Hence, said Office Action is herewith withdrawn, and the instant Office Action substituted as the First Office Action on the Merits for said applicants' reissue application.

Since the Response to the previous Office Action, a Supplemental Information Disclosure Statement, and Reissue Application Declarations by all three inventors were received and filed March 12, 2001, thus before the date of this Office Action, they are also considered herein, as though they were additional submissions supplemental to the Preliminary Amendment.

The reissue oath/declarations by the three inventors, filed on March 12, 2001, are found to be acceptable.

Restarting of Response Time Period

2. Since the Office Action of December 7 has been withdrawn, applicants' response time period has been restarted to begin with the mailing date of the instant Office Action.

Withdrawal of Allowance

3. The third-party e-mail copies (reference BG), and the letters of Stanley R. Ames, Jr. (reference BH) and Richard H. Lord (reference BI), cited on Form 1449 of the IDS of October 16, 2000, are not proper IDS publications. However, the BI enclosures are relevant, and the correspondence raise the question of patentability of the parent application under 35 USC 102 or 103, as indicated in the Action below, which rejects not only said claims but all claims in the instant reissue application..

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-4, 7, 8-10, 12-16, 21-32, 37-40, 41-44, 45, and 49 are rejected under 35 U.S.C. 102(a) as being anticipated by the 1996 SoundTraxx DCC Digital Sound Decoder (DSD100, described in the SoundTraxx publicity handout dated February 1, 1996, the pre-release version being reviewed by Debbie Ames in the Model Railroader magazine for October 1996, this combination constituting reference HP in applicants' IDS of October 16, 2000 HP, a.k.a. Attachment No. 11 mentioned in the Ames, Jr. letter, hereafter SoundTraxx DCC DSD 1996).

As per claims 1, 2, 4, 12, 16, 21-32, 40, 41, 44, 45, and 49, SoundTraxx DCC DSD 1996 includes:

digital control by a micro-controller, using bi-polar digital signal packets, of propulsion, sound effects, and special effects, for model trains having two or more rails (inherent in the "NMRA DCC standards and recommended practices", referring to NMRA S-9.1 and S-9.2, with which DSD is compatible; DSD "integrates a full featured digital sound system, sophisticated lighting effects and a DCC decoder into a single, miniature, electronic module" which is "inside your locomotive");

sound memory storing a plurality of sound effect samples at predetermined addresses (listed steam and Diesel sound effects stored on inherent addressable chip(s));

containing multiple sounds that emulate a model locomotive at various speeds and work loads (listed sound effects under "Stunning Steam Sound!" and "Dynamite Diesel Sound!");

an integrated sound, motor and special effects controller controlled by bi-polar signal packets, the motor and special effects controller reproducing the stored sounds contained in the model train (again, DSD "integrates a full featured digital sound system, sophisticated lighting effects and a DCC decoder into a single, miniature, electronic module" which is "inside your locomotive", the special effects include the listed "Steam Lighting Effects" and "Diesel Lighting Effects" and DSD100 Figure).

As per claim 3, DCC decoders inherently have a electrical power supply, full wave bridge rectifier producing a DC voltage from the bi-polar signal and supplying power to the sound reproducing system, and SoundTraxx DCC DSD 1996 has bi-polar signal packet input from "track pickups" (see DSD100 Figure);

As per claim 7, the SoundTraxx DCC DSD 1996 activates an appropriate air compressor and lighting or other onboard special effects from memories (implied by "activate various sound effects without inferfering with the other sounds") upon sensing a zero speed packet (due to complete stop) with inherently correct address (due to DCC packet structure): "The DSD will automatically activate the cylinder blowdown when the engine...comes to a complete stop" and e.g., "backup light is on".

As per claims 8 and 37, SoundTraxx DCC DSD 1996 has (at least) 1 to 127 addresses ("supports 7 bit address modes for compatibility with 'simple' systems" and "128 speed-step modes").

As per claims 9 and 38, SoundTraxx DCC DSD 1996 has an address range of 1 through 9999 ("supports 14 bit address modes addressing any loco number up to 9,999").

As per claims 10 and 39, SoundTraxx DCC DSD 1996 allows synchronizing the sound effects to the driver's wheels though decoding an inherent properly addressed digital speed packet ("The Auto-Exhaust rate may be programmed to accommodte different drive wheel sizes").

As per claims 13 and 42, SoundTraxx DCC DSD 1996 provides micro-controller volume control of sound effects ("adjustable volume control").

As per claims 14, 15, and 43, SoundTraxx DCC DSD 1996 allows using either 14, 28 or 128 steps of speed control resolution using control variables ("supports 14, 28, and 128 speed step modes") and changing the break points through end-user accessible software on the micro-controller or as defined as configuration variables ("programmable acceleration, deceleration, starting voltage and speed steps") for their speed-dependent sound effects.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 5, 6, 11, 17, 33-36, 48 *** are rejected under 35 U.S.C. 103(a) as being unpatentable over SoundTraxx DCC DSD 1996.

As per claims 5, 33, and 48, the recited fixed external source of either AC or DC power and means for connecting a bi-polar digital signal to the sound unit are inherent in standard DCC operation of model trains. The examiner takes Official Notice that an artisan at the time of invention would have known to use the notoriously well-known technique of filtering the DCC bi-polar signal, to reduce decoding errors due to extraneous noise.

8. Claims 6, 11, 17, 18, 20, 34-36, and 47, are rejected under 35 U.S.C. 103(a) as being unpatentable over SoundTraxx DCC DSD 1996 as applied to claim 1 above, in view of

applicant's acknowledged prior art.

As per claims 6, 11, 17, and 34-36, SoundTraxx DCC DSD 1996 has speed-sensitive sounds located in a model train locomotive or rail car based on a DCC digital speed packet, including samples emulating different speeds and loads, with a controller recalling the synchronous or asynchronous sound effects from relevant memories (plural implied by concurrence of various sounds) that are appropriate to the speed controlled by a DCC speed packet (see "Stunning Steam Sound!" paragraphs).

SoundTraxx DCC DSD 1996 does not mention use of a suitably-mounted Hall effect sensor to trigger speed-sensitive sounds. However, in discussing the Miller *et al.* patent in their Background section, applicants acknowledge such use of a Hall effect sensor to be prior art. It would have been obvious for an artisan at the time of invention to continue using such readily-available technology to provide realism to model trains.

As per claims 18, 20, and 47, SoundTraxx DCC DSD 1996 does not mention use of a magnetically responsive pendulum sensor. However, in discussing the Severson et al. patent in their Background section, applicants acknowledge that use of a pendulum motion detector is prior art. It would have been obvious for an artisan at the time of invention to use a pendulum system to continue using such readily-available technology to provide realism to model trains.

9. Claims 19, 46, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over

SoundTraxx DCC DSD as applied to claim 1 above, in view of Richard H. Lord's NMRA Digital Command System Sound Unit circuit diagram, dated May 20, 1993, with ISD1012A/1016A/ 1020A Single-Chip Voice Record/Playback Device specification sheet, dated February 1992, describing a device publicly displayed at the NMRA National convention at Valley Forge, PA in August 1993 (attached to reference BI in the IDS of October 16, 2000)..

SoundTraxx DCC DSD 1996 does not mention using a microphone to record additional analog characteristic sounds. However, Lord's recorded horn, bell, and Diesel sound effects on the ISD 1086AP chip were recorded by means of a microphone. It would have been obvious for an artisan at the time of invention to thus record additional sound effects to enhance one's model railroad system's realism.

Conclusion

10. **Any response to this action should be mailed to**:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or FAXed to:

(703) 872-9314 (please label *formal* communications
"OFFICIAL"; please label *informal* or draft communications,
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park 2, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist)..

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, Talivaldis Ivars Smits, whose telephone number is (703) 306-

3011. The examiner can normally be reached Mondays-Fridays from 8:30 a.m. to 5:00 p.m.

As of October 2, 2000 the former Technology Center 2700 has been split into two centers (TC 2100 and TC 2600), and former Art Unit 2741 has been designated as **Art Unit 2641**, which new AU number should be used in all future correspondence.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch, can be reached on (703) 305-6137. The facsimile phone number for Technology Center 2600 is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 2600 customer service, whose telephone number is (703) 306-0377.

Art Unit 2641
June 14, 2001

TĀLIVALDIS IVARS ŠMITS
PRIMARY EXAMINER